

Requirements Process (TACOM Small Business Fair)



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Requirements Process



- **Overview of Defense Acquisition System**
- **Requirements Generation**
 - **JCIDS Process**
 - **Rapid Acquisition**
 - **Roles**
- **Typical PM Contracting Approaches**
- **Challenges to integration of new technology**

Defense Acquisition System

- Overview of Defense Acquisition System



Credibility • Capability • Cost

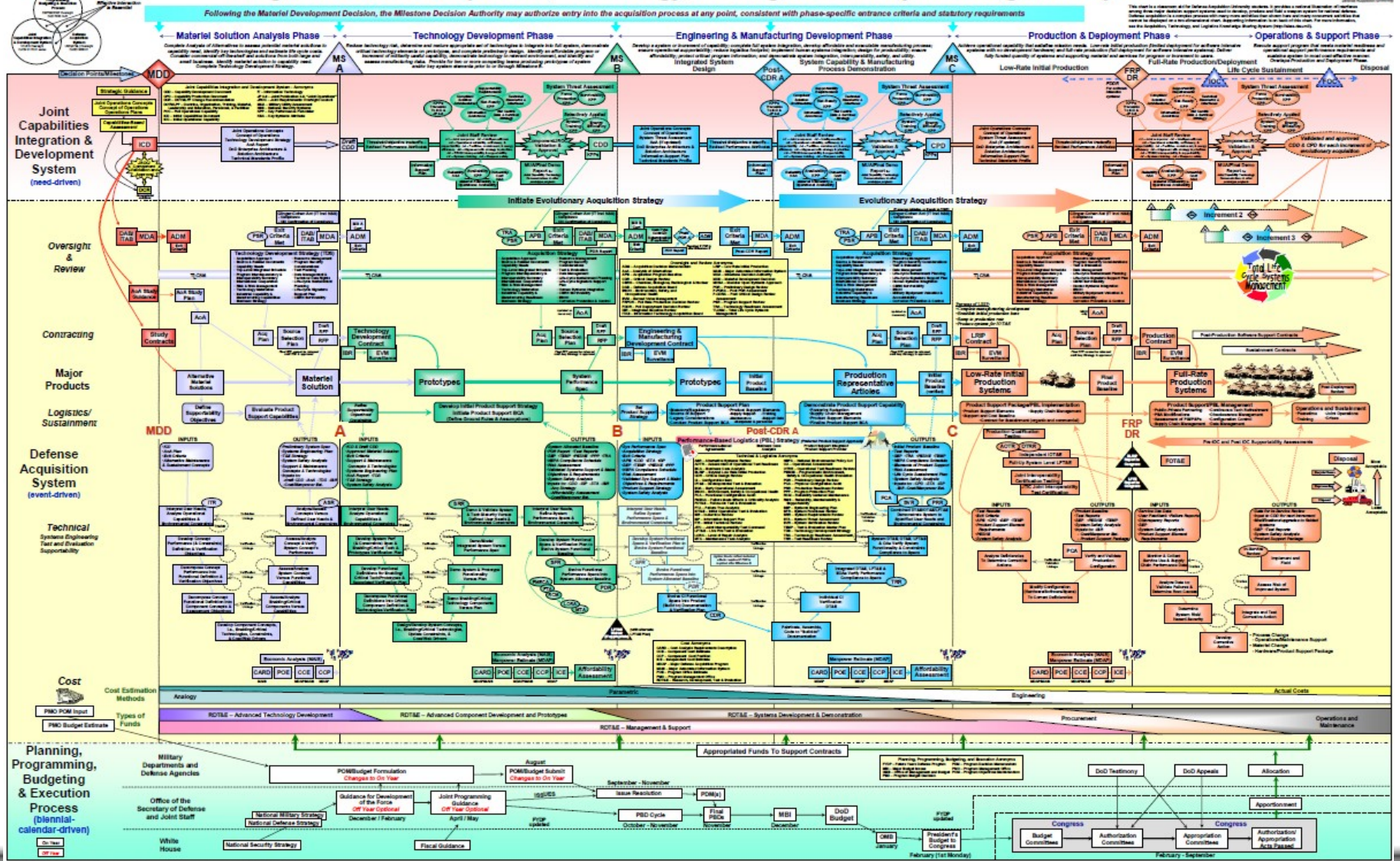
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DoDI 5000.02 & "Wall Chart"



Version 5.1.4 1 June 2009

Integrated Defense Acquisition, Technology, and Logistics Life Cycle Management System



DoDI 5000.02: What is it?

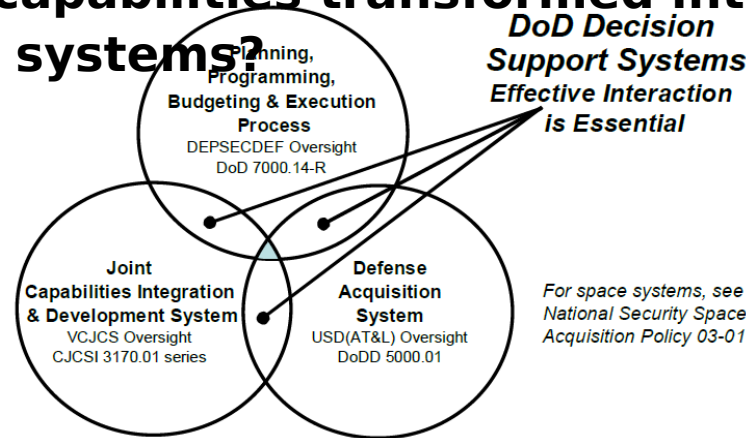


- **“Establishes a simplified and flexible management framework for translating capability needs and technology opportunities, based on approved capability needs, into stable, affordable, and well-managed acquisition programs** that include weapon systems, services, and automated information systems (AISs).”
- Is the guiding framework within which **PEOs & PMs** must operate within as they perform their mission of **developing, fielding & sustaining** DoD **systems**.
- Is essentially a “**stage-gating process**” intended to **reduce risk** in the acquisition of complex systems and **provide structure** into the management of them

DoDI 5000.02



- How are required capabilities transformed into fielded/sustained systems?

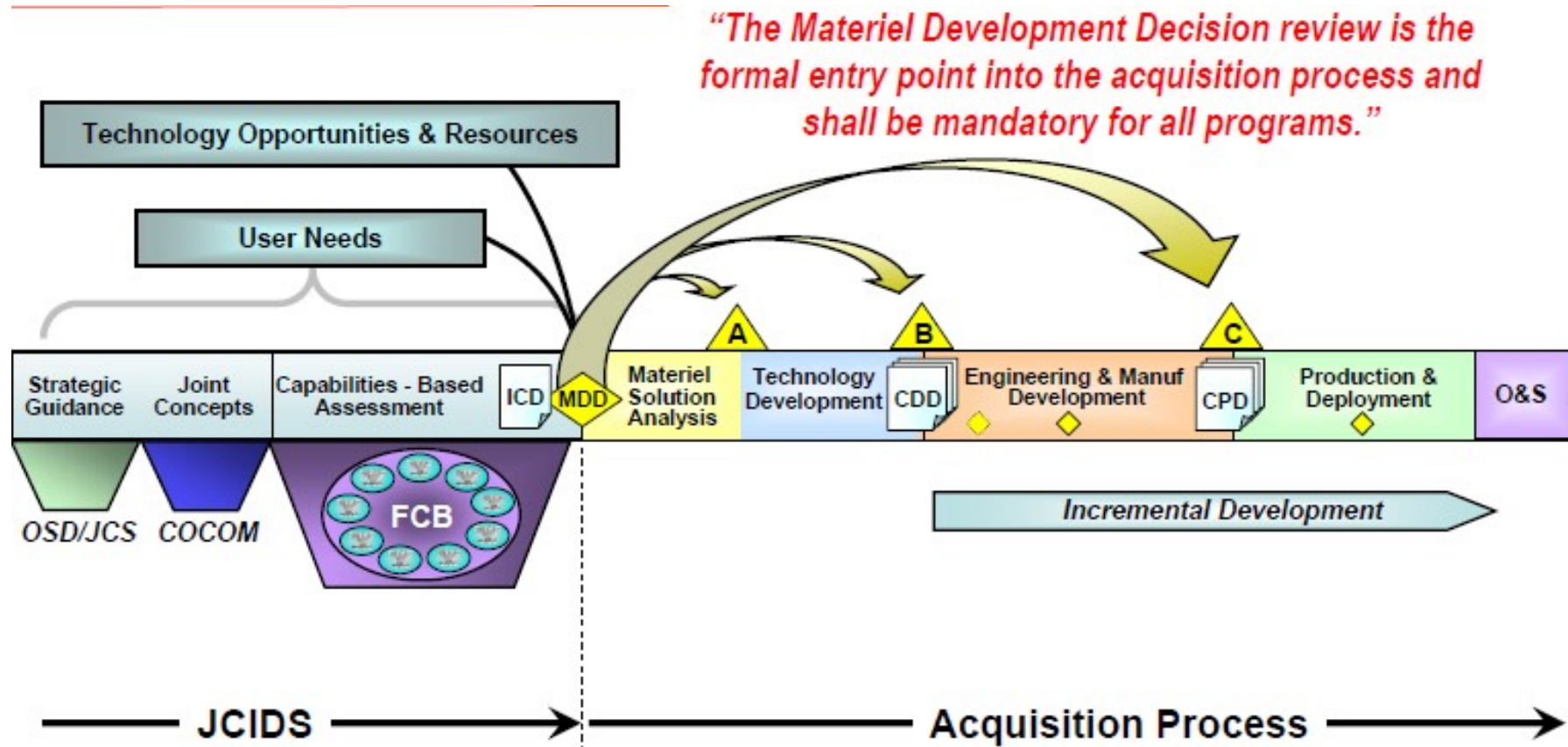


- Required operational capabilities are identified and validated by TRADOC Combat Developers in the **Joint Capabilities Integration & Development System (JCIDS) process**

- Validated & funded operational requirements are assigned to Materiel Developers (i.e., PEOs & PMs), who are then responsible to develop, field, and sustain systems that satisfy the validated requirements. This process is known as the **Defense Acquisition System**.

- The funding that is required to enable this transformation from required capabilities to sustained systems is known as the **Planning, Programming, Budgeting & Execution (PPBE) process**

DoDI 5000.02: Initiation of New Programs



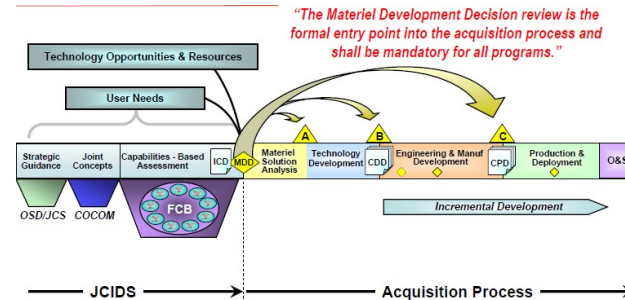
Credibility • Capability • Cost

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DoDI 5000.02: Milestone A



- What are some key things to know about the Defense Acquisition System?



Technology Development



Purpose: Reduce Technology Risk, *Demonstrate Critical Technology on Prototypes, Complete Preliminary Design*

Enter: MDA *approved materiel solution* and TDS; *funding for TD phase activities*

Activities: *Competitive prototyping; Develop RAM strategy; conduct Preliminary Design Review (PDR)*

Guided by: ICD & TDS *and supported by SE planning*

Exit: Affordable increment of military-useful capability identified; technology demonstrated in relevant environment; manufacturing risks identified; *PDR conducted for candidate solutions*; system or increment ready for production within short time frame (normally less than 5 years *for weapon systems*)

December 2008 v3

New terms/requirements in *bold blue italics*

Milestone A

MDA approves:

- *Materiel solution*
- Technology Development Strategy (TDS)
- Exit criteria for next phase
- *Milestone A Certification (10 USC 2366a)*
- Acquisition Decision Memorandum (ADM)

Statutory & Regulatory Requirements

<ul style="list-style-type: none"> • Acquisition Decision Memorandum (ADM) • Analysis of Alternatives (AoA) • Acquisition Information Assurance Strategy • Clinger-Cohen Act (CCA) Compliance • Clinger-Cohen Act Certification (MAIS) • CIO Confirmation of CCA Compliance for all non-MAIS IT • Consideration of Technology Issues • <i>Component Cost Estimate (CCE)</i> • Economic Analysis (MAIS) • Exit Criteria 	<ul style="list-style-type: none"> • Exit Criteria • Initial Capabilities Document (ICD) • <i>Item Unique Identification (IUID) Implementation Plan</i> • <i>Life Cycle Signature Support Plan</i> • Market Research • <i>MDA Program Certification</i> • Program Protection Plan (PPP) • <i>Systems Engineering Plan (SEP)</i> • Technology Development Strategy (TDS) • Test & Evaluation Strategy (TES)
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3 Key Critical Documents:

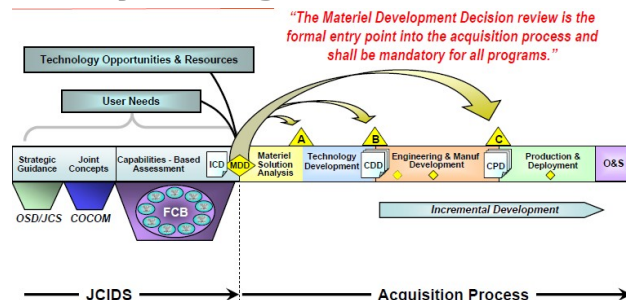
- TDS
- SEP
- TES

New terms/requirements in *bold blue italics*

DoDI 5000.02: Milestone B



- What are some key things to know about the Defense Acquisition System?



DAU Milestone B: Statutory and Regulatory Requirements	
All programs except where noted (see encl. 4, DoDI 500.02)	
<ul style="list-style-type: none"> Acquisition Decision Memorandum (ADM) Analysis of Alternatives (AOA) (update) Acquisition Strategy Affordability Assessment Acquisition Program Baseline Acquisition Information Assurance Strategy Alternate Live Fire T&E Plan Benefit Analysis & Determination Capability Development Document (CDD) Title 40 Clinger-Cohen Act (CCA) Compliance Title 40 Clinger-Cohen Act Certification (IMAS) CIO Confirmation of CCA Compliance (non-IMAS IT) Consideration of Technology Issues (ACAT I & II) Competition Analysis Component Cost Estimate (CCE) (IMAS) Cooperative Opportunities Core Logistics Analysis/Source of Repair Analysis Cost Analysis Requirements Description (CARD) (MDAP & IMAS) Corrosion Prevention Control Plan Data Management Strategy (in acquisition strategy) Economic Analysis (IMAS) Exit Criteria Initial Capabilities Document (ICD) Independent Cost Estimate (ACAT II) Independent Technology Readiness Assessment (TRA) (ACAT ID) 	<ul style="list-style-type: none"> Information Support Plan (ISP) Industrial Base Capabilities (IDBP) Item Unique Identification Impl Plan (SEP annex) Live Fire T&E Waiver Life Cycle Signature Support Plan LRIP Quantities (ACAT I & II) Manpower Estimate (MDAP) Market Research MDA Program Certification MDA Assessment of compliance with Chemical, Biological, Radiological, and Nuclear Survivability Requirements Net-Centric Data Strategy (in ISP) Operational Test Agency O&E Report Preliminary Design Review Report PM's Developmental Test Report Program Protection Plan (PPP) Programmatic Environmental Safety & Occupational Health Evaluation (PESHE) Replaced System Sustainment Plan (RSAP) Selected Acquisition Report (SAR) (MDAP) Spectrum Supportability Determination Systems Engineering Plan (SEP) System Threat Assessment Report (STAR) (ACAT II) System Threat Assessment (ACAT II) Technology Readiness Assessment (TRA) Test & Evaluation Master Plan (TEMP)

Milestone B



Engineering & Manufacturing Development

MDA approves:

- Program Initiation (for most programs)
- Entry into **EMD**
- Acquisition Strategy
- Acquisition Program Baseline
- LRIP quantities
- Exit criteria for next phase
- Type of Contract**
- Milestone B Certification (10 USC 2366b)**
- ADM

New terms/requirements in **bold blue italics**

Purpose: Develop a system or increment of capability, develop an affordable manufacturing process, **minimize logistics footprint**



- Enter:** Mature Technology; Approved Requirements; Full Funding in FYDP
- Activities:** **Define System of System Functionality & Interfaces**, Complete Detailed Design, **System-Level PDR (as needed)/CDR, Establish Product Baseline**,
- Guided by:** CDD, **Acq Strategy, SEP & TEMP**
- Exit:** **Complete System-Level CDR and Post-CDR Assessments by MDA**

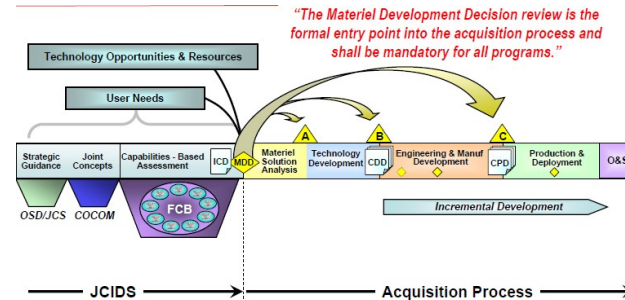
- Enter:** **Post-CDR Assessment and Establishment of initial Product Baseline**
- Activities:** Developmental Testing (DT) Assesses Progress Against Technical Parameters, and Operational Assessments (OA) Against CDD
- Guided by:** CDD, **Acq Strategy, SEP & TEMP**
- Exit:** System Demonstrated in Intended Environment using **production-representative articles; Manufacturing Processes Demonstrated**; Meets Exit Criteria and MS C Entrance Requirements

New terms/requirements in **bold blue italics**

DoDI 5000.02: Milestone C



- What are some key things to know about the Defense Acquisition System?



Milestone C

DAU Milestone C: Statutory and Regulatory Requirements
All programs except where noted (see encl. 4, DoDI 5000.02)

<ul style="list-style-type: none"> • Acquisition Decision Memorandum (ADM) • Analysis of Alternatives (AoA) (update) • Acquisition Strategy • Affordability Assessment • Acquisition Program Baseline • Acquisition Information Assurance Strategy • Benefit Analysis & Determination • Capability Production Document (CPD) • Title 40/Clinger-Cohen Act (CCA) Compliance • Title 40/Clinger-Cohen Act Certification (MAIS) • CIO Confirmation of CCA Compliance (non-MAIS IT) • Consideration of Technology Issues (ACAT I & II) • Competition Analysis • Component Cost Estimate (CCE) • Cooperative Opportunities • Core Logistics Analysis/Source of Repair Analysis • Cost Analysis Requirements Description (CARD) (MDAP & MAIS) • Corrosion Prevention Control Plan • Data Management Strategy (in acquisition strategy) • Exit Criteria • Initial Capabilities Document (ICD) (if program initiation) • Independent Cost Estimate (ACAT II) 	<ul style="list-style-type: none"> • Independent Technology Readiness Assessment (TRA) (ACAT ID) • Information Support Plan (ISP) • Industrial Base Capabilities (IDBP) • Item Unique Identification Plan (SEP annex) • Life Cycle Sustainment Plan (LCSP) • Life Cycle Signature Support Plan • Manpower Estimate (MDAP) • MDA Program Certification (if program initiation) • Military Equipment Validation (in acquisition strategy) • Net-Centric Data Strategy (in ISP) • Operational Test Agency OT&E Report • PM's Developmental Test Report • Program Protection Plan (PPP) • Programmatic Environmental Safety & Occupational Health Evaluation (PESHE) • Selected Acquisition Report (SAR) MDAP (if rebaselined) • Spectrum Supportability Determination • Systems Engineering Plan (SEP) • System Threat Assessment Report (STAR)(ACAT II) • System Threat Assessment (ACAT II) • Technology Readiness Assessment (TRA) • Test & Evaluation Master Plan (TEMP)
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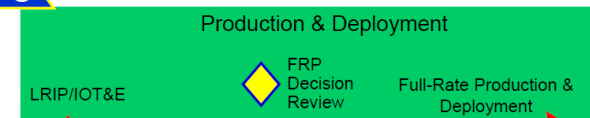
December 2008 v3 New terms/requirements in **bold blue italics** 55

MDA Approves:

- Updated Acquisition Strategy and Acquisition Program Baseline
- Entry into LRIP for systems that require a LRIP, into production or procurement for systems that do not require LRIP, or into limited deployment for MAIS programs or software intensive systems with no production components
- Exit criteria for LRIP if appropriate
- Acquisition Decision Memorandum

Production & Deployment

C Purpose: Achieve an operational Capability that satisfies mission needs

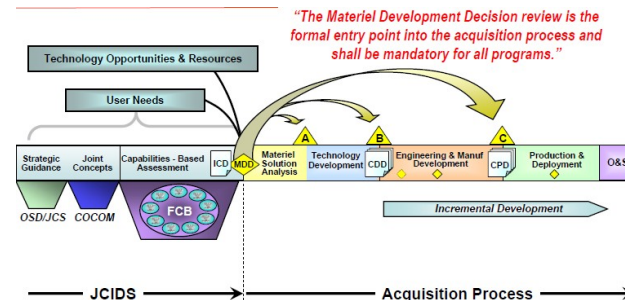


- Enter:** Acceptable performance in DT & OA; mature software; no significant manufacturing risks; approved CPD; **refined integrated architecture**; acceptable interoperability and operational supportability; demonstration of affordability; fully funded; phased for rapid deployment.
- Activities:** IOT&E, LFT&E and Interoperability Testing of Production-Representative Articles; **IOC possible**
- Guided by:** CPD, TEMP
- Exit:** System Operationally Effective, Suitable and Ready for Full-Rate Production
- Enter:** Beyond LRIP & LFT&E Reports (OSD T&E/LFT&E programs) Submitted to Congress
- Activities:** Full-Rate Production; Fielding and Support of Fielded Systems; IOC/FOC
- Guided by:** Acq Strategy & Life Cycle Sustainment Plan
- Exit:** Full Operational Capability; Deployment Complete

DoDI 5000.02: FRP



What are some key things to know about the Defense Acquisition System?



FRPDR Statutory and Regulatory Requirements

<ul style="list-style-type: none"> • Acquisition Decision Memorandum (ADM) • Analysis of Alternatives (AoA) (AIS only) • Acquisition Strategy • Acquisition Program Baseline • Acquisition Information Assurance Strategy • Beyond LRIP Report (DOT&E T&E Oversight Programs) • Title 40/Clinger-Cohen Act (CCA) Compliance • Title 40/Clinger-Cohen Act Certification (MAIS) CIO • Confirmation of CCA Compliance (all non-MAIS IT) • Component Cost Estimate (CCE) • Cost Analysis Requirements Description (CARD) (MDAP & MAIS) • Data Management Strategy (part of Acq Strategy) • Economic Analysis 	<ul style="list-style-type: none"> • Exit Criteria • IT and NSS Joint Interoperability Test Certification (all IT incl NSS) • IOT&E Completed ACAT I and II (conventional weapons systems for use in combat) • Independent Cost Estimate (ACAT I) (if MDA requests) • Life Cycle Sustainment Plan (LCSP) • Live Fire T&E Report (OSD LFT&E Programs) • Manpower Estimate (MDAP) • Military Equipment Validation (part of Acq Strategy) • Operational Test Agency OT&E Report • Post Implementation Review • Programmatic Environmental Safety & Occupational Health Evaluation (PESHE) • Test & Evaluation Master Plan (TEMP)
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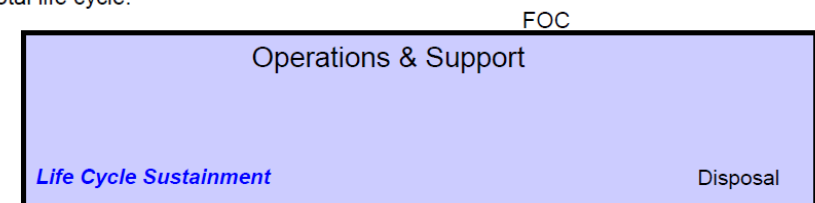
Operations & Support

Full Rate Production Decision Review (FRPDR)

Purpose: Execute a support program that meets materiel readiness and operational support performance requirements, and sustains the system in the most cost-effective manner over its total life cycle.

MDA Approves:

- Full-rate production
- Updated Acquisition Strategy
- Updated Acquisition Program Baseline
- Exit criteria, if appropriate
- Provisions for evaluation for post-deployment performance
- Acquisition Decision Memorandum (ADM)



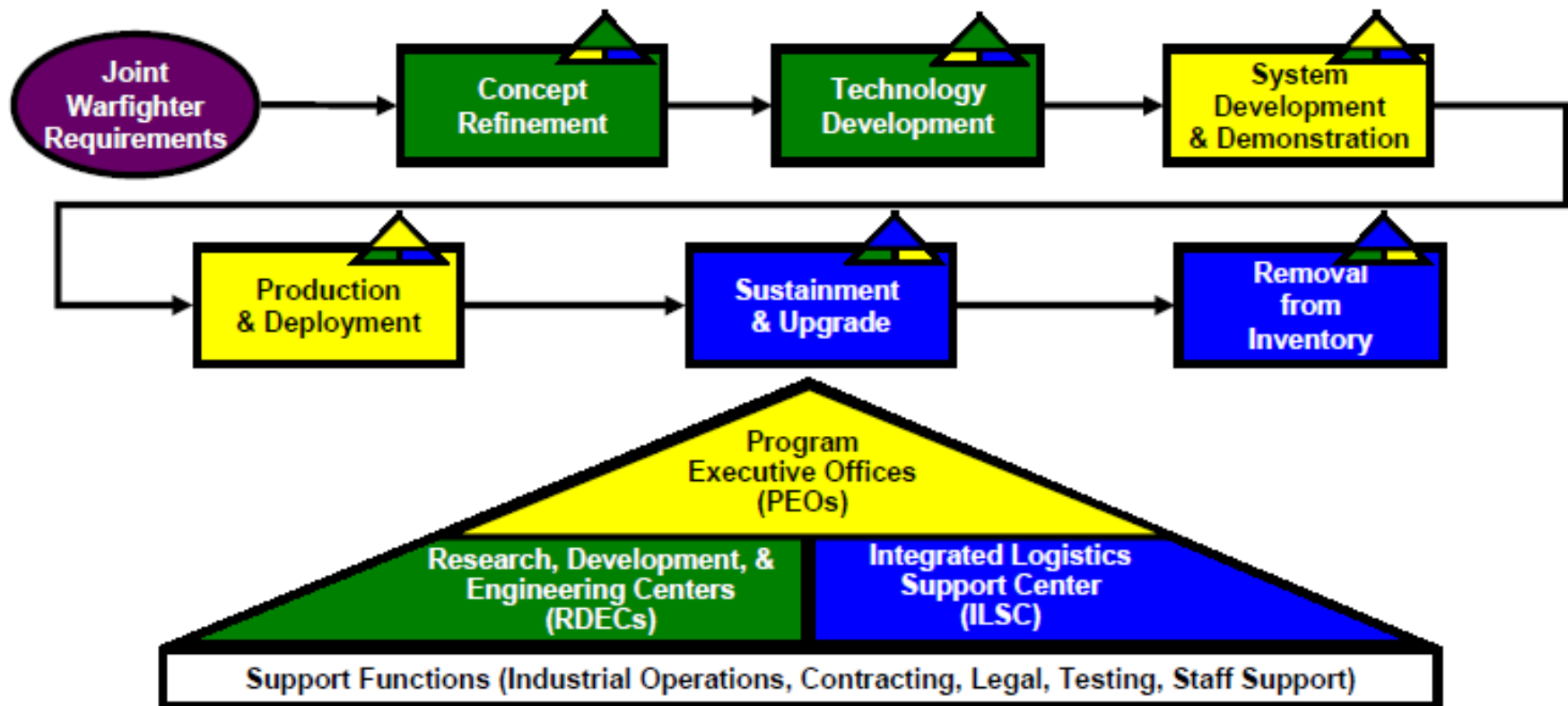
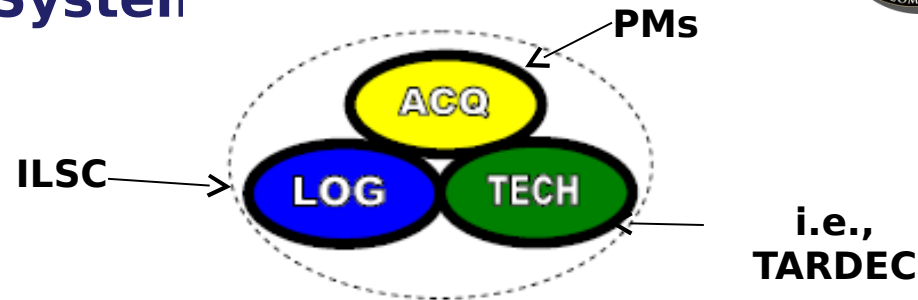
- **Entrance:** Approved CPD; **approved LCSP;** **successful FRP Decision**
- **Activities:** **Performance-Based Life-Cycle Product Support (PBL)** planning, development, implementation, and management; initiate system modifications as necessary; continuing reviews of sustainment strategies
- **Guided by:** Acquisition Strategy/LCSP

- **Activities:** Demilitarize and Dispose of Systems IAW Legal and Regulatory Requirements, Particularly Environmental Considerations and Explosives Safety
- **Guided by:** Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)

Credibility • Capability • Cost

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Roles in TACOM LCMC's AT&L Lifecycle Management System



Credibility • Capability • Cost

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Funding Types by Phase in AT&L Lifecycle Management System



Typical Colors of Money by System Lifecycle Phase

User Needs

Technology Opportunities & Resources

A

B

C

IOC

FOC

Material
Solution
Analysis

Technology
Developme
nt

Engineering and
Manufacturing
Development

Production &
Deployment

Operations
&
Support

ICD



Material
Development
Decision

AoA

PDR

PDR

Post PDR
Assessment

CDR

Post CDR
Assessme
nt

FRP
Decision
Review

Pre-Systems Acquisition

Systems Acquisition

Sustainme
nt

6.3
RDTE

6.4
RDTE

6.5
RDTE

Procurement
(Example:
OPA)

O&M
(Example:
OMA)

TRL 4

TRL 5

TRL 6

TRL 7

TRL 8

TRL 9

Component and/or
Breadboard Validation in a
Laboratory Environment

Component
and/or
Breadboard
Validation
in a
Relevant
Environme
nt

System/
Subsystem
Model or
Prototype
Demonstra
ted in a
Relevant
Environme
nt

System Prototype Demonstrated in an
Operational Environment

Actual System
Completed
Qualified
through Test
and
Demonstration

Actual System
"Mission
Proven"
through
Successful
Operations

Technology
Readiness
Levels
(TRLs)

Credibility • Capability • Cost

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Requirements Generation

- Requirements Generation
 - JCIDS Process



JCIDS 101



Joint Vision

Joint Concept

Subordinate Concept

Doctrine

**Functional Area Analysis
FAA**

**Functional Needs Analysis
FNA**

**Functional Solution Analysis
FSA**

1.

2.

3.

4.

Capability Requirement Gaps

**FOC (Future Ops Capabilities)
UJTL (Universal Joint Task List)
&
AUTL (Army Universal Task List)**

List as:
a. Task
b. Condition
c. Standards
d.
e.
f.
g.
h.

**Defined Capabilities Gaps
Transferred To FNA**

(GAP)
(GAP)
(GAP)
(GAP)
(list of needs)

Compare each Gap in FNA to: DOTLFP M

DOTLFP (analysis) (non-material Solution)

DOTMLPF - if a system already exists

PIA (Post Independent Analysis)

Material or Non - Material solution decision is made.

5

DOTMLPF Solution DCR
(Doctrinal Change Request)

Material Solution ICD
(Initial Capabilities Document)

MS A

Material Solution CDD
(Capabilities Development Document)

MS B

Material Solution CPD
(Capabilities Production Document)

MS C

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NO JCIDS DOCUMENT NO MONEY



- ◆ JCIDS process documents - ICDs identify capabilities gaps and CDD/CPD identify material solutions
- ◆ Funding Justification -G8 (ICDs can be used to start limited POM Lines)
- ◆ Documents earns CARDS # = Program of Record when funded in the POM build

Operational Needs Statements vs Formal Requirements



ONS

1. Operational commander submits critical operational request to HQDA G-37 (DAMO-CIC) for accelerated solution
2. ONS solutions resourced by realignment of Year of Execution and / or Budget Year \$\$
3. Operational commanders means to Influence formal JCIDS process
4. G-37 (DAMO-CIC) submits to TRADOC for DOTMLPF analysis to determine Army application
5. Format and interim policy guidance:
HQDA G-3/5/7 (DAMO-CIC)
Memorandum, 7 April 2005

Formal Requirement

1. Other high value capability needs from field sent to TRADOC's ARCIC for review, analysis, and JCIDS staffing / approval
2. Formal approved / prioritized requirement resourced in POM

ARCIC: Army Capabilities Integration Center
DOTMLPF: Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
G-37 (DAMO-CIC): Future Warfighting Capabilities Division
JCIDS: Joint Capabilities Integration and Development System
ONS: Operational Needs Statement
POM: Program Objective Memorandum
TRADOC: Training and Doctrine Command

Rapid Response: ONS/JUONS



The JUON Process Consists of Four Phases:

GENERATION PHASE

VETTING PHASE

EQUIPPING PHASE

OPERATIONS AND SUPPORT PHASE

Force Commander
Identifies
Urgent Need

J-8 CAD Receives and
verifies that JUON meets
submission criteria

Interim Sponsor creates
a Simplified Acquisition
Plan

Interim Sponsor sustains
solution and monitors
performance for twenty-
four months

Combatant Staff
determines the most
suitable process

Joint staff reviews and
routes JUON

Procures and deliver
solution to the
Warfighter

Interim Sponsor, COCOM,
and
FCB prepare Capability
Review to Address final
disposition of fielded system

COCOM CoS certifies and
submits to Joint Staff (DJ-8
CAD)

Identify solutions
JRAC determines a
resourcing Strategy.

Provide Progress Reports
On Performance, Cost,
and Schedule

Requirements Generation



Organization Type	Example Organizations	Role
Combat Developer	Maneuver Center of Excellence (MCOE) - Ft. Benning, GA	Generate requirements through JCIDS process
	Marine Corps Combat Development Command (MCCDC) - Quantico, VA	
Units / COCOMs	III Corps - Ft. Hood	Generate rapid acquisition requirements
	463rd Engineer Detachment	
Battle Labs	Maneuver Battle Lab (MBL) - Ft. Benning, GA	Conduct Warfighter experiments in support of requirements generation
	Marine Corps Warfighting Lab (MCWL) - Quantico, VA	
Resource Management	HQDA G8	Match available resources to requirements to meet strategic & near-term goals
	Army Requirements & Resourcing Board (AR2B)	
PM	RS JPO - Warren, MI	Develop, field & sustain systems based on validated requirements and provided funding
	PM TV - Warren, MI	
S&T	TARDEC - Warren, MI	Conduct RD&E in support of current & future requirements
	CERDEC - Ft. Monmouth, NJ	

Credibility • Capability • Cost

Small Business Relevance for Large Programs

Operational
Requirement

i.e., CDD, CPD,
ONS

PM Requirement

i.e.,
Performance
Spec, Contract

Sub-Contracts

Prime Contractor
Requirement

Small Business



PM Contracting Approaches



- **PMs typically contract directly with OEMs for complete “system”**
- **Proposals for contracts <\$550K from Large Businesses require Small Business Sub-Contracting Plan**

PM Technology Integration Challenges



- **Validated Requirements**
- **Availability of Funding / “Color of Money”**
- **COTS Acquisition Approaches**
- **Contract Mechanisms**
- **Data Rights**
- **Uncertainty of Technological Maturity**



Questions?